Fig 1a.
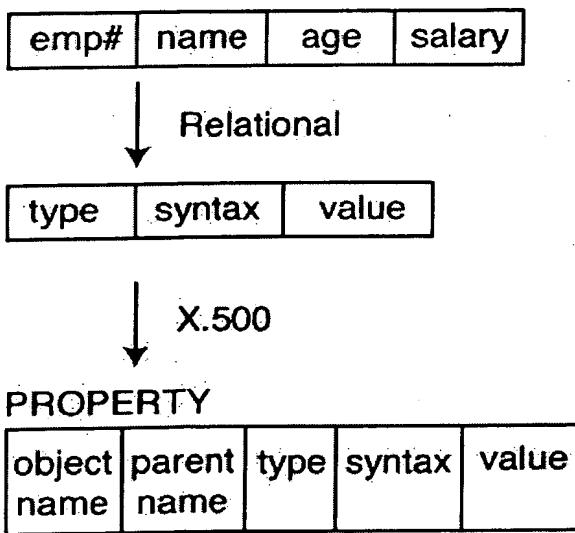
Principal Design

Representing X.500 in a RDBMS
- data extensibility and complexity
- object orientated and hierarchical
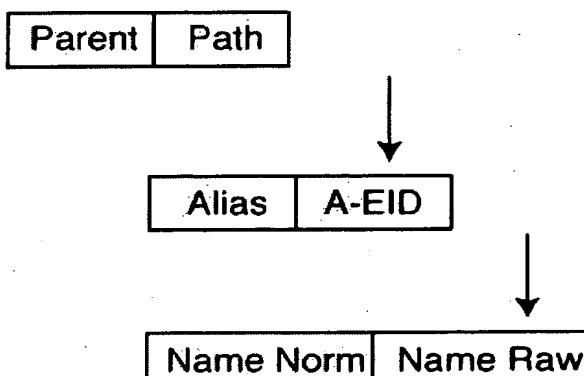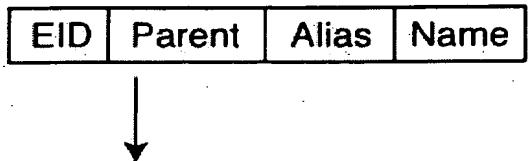
emp#	name	age	salary

↓ Relational

type	syntax	value

↓ X.500

PROPERTY

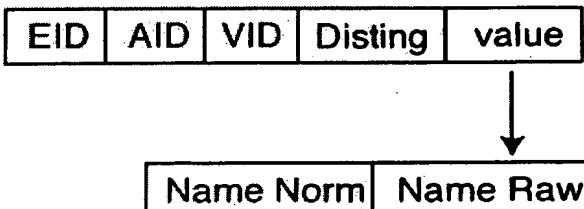| object name	parent name	type	syntax	value

Conceptual Design

Implementing X.500 in a RDBMS
- attributes and values
- hierarchy and names
- aliases
- data tolerance

HIERARCHY

EID	Parent	Alias	Name

↓

Parent	Path

↓

Alias	A-EID

↓

Name Norm	Name Raw

OBJECT

EID	AID	VID	Disting	value

↓

Name Norm	Name Raw

ATTRIBUTE

EID	Type	Syntax	Object ID

functional decomposition ⟶
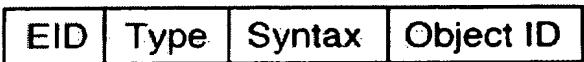
service decomposition ⟶

Logical Design

Performance Enhansments for RDBMS
- indexing option
- I/O considerations
- management

Physical Design

Realising X.500 in a RDBMS
- efficiency
- portability
- functional extensibility

DIT

EID	PARENT	ALIAS	RDN

TREE

EID	PATH

ALIAS

EID	A-EID

NAME

EID	RAW

SEARCH 3

EID	AID	VID	DISTING	NORM

ENTRY

EID	AID	VID	RAW

SUBSEARCH 4

EID	AID	VID	CID	DISTING	NORM

7

ATTR

EID	SYX	DESC	OBJECTED

5

physical decomposition →

DIT

EID	PARENT	RDNKEY	RDN	FLAGS

TREE

EID	LEV1	LEV2	LEV3	LEV4	PATH	FLAGS

ALIAS

EID	A_EID	FLAGS

NAME

EID	RAW	FLAGS

INFO

MAXIED	FLAGS

SEARCH 3

EID	AID	VID	NORM KEY	NORM	FLAGS

SUBSEARCH 8

EID	AID	VID	CID	CVID	NORM KEY	NORM	FLAGS

7

ENTRY

EID	AID	VID	RAW	FLAGS

SENTRY

EID	AID	VID	VALUE	FLAGS

BLOB

EID	AID	VID	VFRAG	RAW	FLAGS

ATTR 10   5

AID	SYX	DESC	OBJECT ID	FLAGS

SUBATTR 6

CID	SYX	DESC	OBJECT ID	FLAGS

9 **OCLASS**

OCID	DESC	OBJECTID	MUST LIST	MAY LIST	SUPER LIST	FLAGS
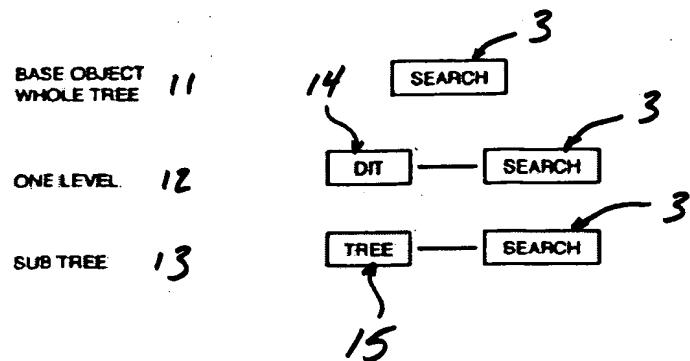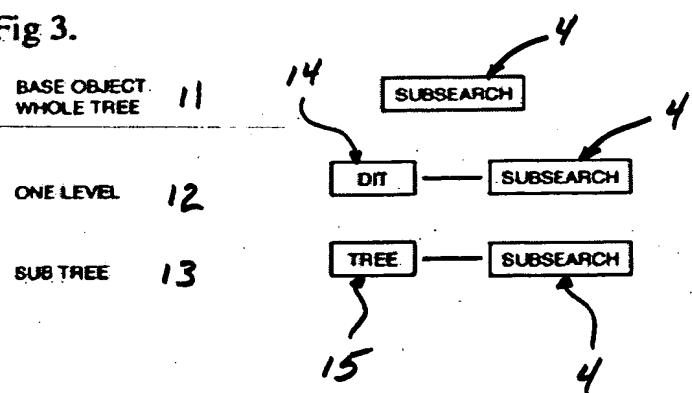
Fig 2.

BASE OBJECT WHOLE TREE 11   14   SEARCH   3

ONE LEVEL 12   DIT —— SEARCH   3

SUB TREE 13   TREE —— SEARCH   3

15

Fig 3.

BASE OBJECT WHOLE TREE 11   14   SUBSEARCH   4

ONE LEVEL 12   DIT —— SUBSEARCH   4

SUB TREE 13   TREE —— SUBSEARCH

15   4

Fig 4.

Certificate 20

Issuer	CA
Validity	1-2-2000
Serial	1234
Version	1
Subject	rick harvey

21
22
23
24
25

SEARCH

CA 1-2-2000 1234 1 RICK HARVEY

3

OR

175672311?

3A

SUB SEARCH

4

CID	NORM
0	CA
1	20000201
2	1234
3	1
4	RICK HARVEY

26
27
28
29
30

SUBATTR

6

CID	SYX	DESC	OBJECT ID	FLAGS
0	1	ISSUER	2.5.4.99.1	0
1	11	VALIDITY	2.5.4.99.2	0
2	10	SERIAL	2.5.4.99.3	0
3	9	VERSION	2.5.4.99.4	0
4	1	SUBJECT	2.5.4.99.6	0

Fig 5.

phone no   *31*

| 98791234 |

SEARCH   *32*

··· | 98791234 | ···

SUBSEARCH   *33*

··· | 43219789 | ···